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PRIDE AND PREJUDICE – IDENTITY AND COLLABORATION IN CONSTRUCTION

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Based on an 18 month ethnographic case study of a construction partnering project, the paper adopts practice based theory for understanding the identity formation and practices of collaboration in construction. Drawing upon practice based theory in general and actor network theory and communities of practice in particular, the construction project is interpreted as configuration of networked practices characterized by strong professional practices (e.g. architects and contractors) and locally negotiated collaboration practices. During the construction project, actors gain experiences in relation to the actual building and their profession, but concurrently they learn how to engage in collaboration with other professions in the project. These practice-based learning processes are very influential and effective. Newcomers to a profession quickly learn the name of the game – for better or for worse. Overtime they learn to behave competently at the boundaries between professions forming their identity and a sense of belonging in relation to an institutionalized role and the realization of the physical building. In this process the actors develop “pride” in terms of authorship of the physical building and membership their profession. However another consequence of these learning processes is the development of prejudices. Prejudices are often viewed as a negative aspect of building processes as it hinders collaboration among the professions. Consequently prejudices is often seen as something which should be eliminated e.g. in the partnering concept. Stemming from practice based theory the paper on the contrary argues that prejudice represents accumulated experiences from previous projects shaped by the negotiation of meaning within professions. In this perspective prejudice is integrated in the daily building practices – enabling and inhibiting collaboration. Pride and prejudice are thus central constitutive elements of present construction practices in the formation of identity and development of collaboration processes.

Keywords: identity, collaboration, practice based theory, partnering, prejudice.

INTRODUCTION

Pride and prejudices seems always to have been tied to the products and processes of construction. The pride is closely linked to the products as they have lasting impacts on local societies and might survive for millenniums. Due to their sizes they are often very visible and thus are the products of construction often subject to great debate and possible admiration and critique.

While the product last for ever, the process of construction is much more temporary and ephemeral. The construction industry realizes its products through inter-firm

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project organizations, often portrayed as temporary and unique. A specific division of labour and roles exists organizing contractors, engineering companies, and architects in the shared endeavour. Although there are examples of transcending these roles, they are generally maintained in the majority of building projects. Construction project are thus constellations of professional practices, which maintain well-defined and well-exercised roles.

Loosemore and Tan (2000) analyse these roles as occupational stereotypes and identify their mutual perceptions and expectations. While not directly studying prejudices they argue prejudices arise from these stereotypes. Based on this insight this paper seeks to understand how these roles are exercised and developed, how collaboration occurs in practice.

AMBITION

This leads to the two-fold aim of the paper. First, the paper will introduce a practice-based perspective for understanding the organisation of practices in projects. This perspective will act as a platform for discussing the identity formation and practices of collaboration in construction.

THE METHOD

The paper develops an analytical strategy from two “mature” theories dealing with practice – Actor Network Theory (ANT) and Communities of Practices (CoP). Both these theories is a part of the wider “practice turn” in management and organizational studies (Nicolini 2012 & Schatzki et al. 2001) which places emphasis on understanding management and organizing through the unpredictable, embodied, and materially mediated, lifeworlds, of practitioners themselves, rather than through “best practice” ideals, abstractions and rationalist models of human behavior.

Although the theoretical framework of CoP originally have been studied in stable and well-defined contexts like photocopier repairmen (Orr, 1996), and claims processors (Wenger, 1998) recent studies shows the theory's application in project settings like the construction industry (Gherardi and Nicolini 2002 and Ruikar et al 2009)

In relation to project organizing ANT has been applied for understanding diverse projects as; building (Sage et al. 2011, Tryggestad et al., 2010; Harty, 2008; Suchman, 2000), transport (Latour, 1996), information system (Tatnall and Gilding 1999) and aerospace (Law, 2002). It is the general impression that ANT is a promising strategy for studying project work thus is Sage et al. (2011) concluding that ANT might “contribute to the further understanding of the dynamic, interdependent and emergent stabilizations and negotiations that constitute complex projects.” (pp. 288).

The intention is not to develop a full-scale Actor-Network analysis, but draw upon some fundamental ideas and strategies in the understanding of project practices. In this process, inspiration is drawn from a wide range of sources including the key-contributions within the field of Communities of Practices Theory (CoPT) and Actor Network Theory (ANT). This includes studies like John Law's analysis of the Life and Death of a military aircraft development project (Law 2002) and Jean Lave & Etienne Wenger's development of situated learning theory (Lave & Wenger 1991; Wenger 1998).

Throughout the paper, the analytical strategy is applied on empirical material from an ethnographic study of a construction project.

Ethnographic research is one of the most celebrated methods for doing practice based studies (Nicolini 2012), for several reasons: It provides extensive and in-depth findings about practice due to the first-hand observation that is involved and as it usually is conducted over an extended period of time. In addition, because ethnographic research relies on observation rather than examinations or predetermined tests, the research can evolve and explore new lines of inquiry. In the novel "Pride and Prejudice" by Jane Austin the main character Elizabeth Bennet brings out the centrality of ethnographies research "But people themselves alter so much, that there is something new to be observed in them for ever." (Austin 1813)

However ethnographic research has its disadvantages. Since it relies on observation it often takes a longer period of time to produce thorough and reliable results. Also, because the research is reliant upon the observations of just one or a few people, the conclusions are influenced by the observers' bias or ignorance.

Balancing these trade-offs the empirical material for this study was collected in an ethnographic study of a construction project – with a primary focus on design activities. During an 18 month period the author was present on a daily basis in the project participating in the "main" design activities, covering all design meetings, workshops, and some internal and external meetings. Apart from participant observation, interviews of project members were conducted. An extensive part of the material (i.e. meetings and interviews) has been taped resulting in more than 90 hours of recordings. Furthermore, the formal documents created by the actors have been made available such as contracts, resumes, drawings etc.

The rich field material was originally gathered and analysed using Practice-Based Theory including ANT and CoP (Thuesen 2005 & Koch & Thuesen 2013). This analysis involved selecting special themes and studying knowledge processes around these. Building on the same platform of PBT this paper will discuss the practices of collaboration and identity formation.

Presenting this vast material in the format of a conference paper is an almost impossible exercise. Thus expects of the material is presented as small vignettes working as figurative elements in the development of the approach for understanding the organization of the practices in the project. This understanding is subsequently used for discussing the development of identity and collaboration based on a partnering workshop with a specific focus on prejudices.

CASE: CONSTRUCTING A WOLD-CLASS SCHOOL SYSTEM

The objective of the studied project was to develop a world-class school system for a Danish municipality. This included construction of a new school and refurbishment of four existing schools. The main companies in the project were, besides a main-contractor, an architect, a technical consultant, and a client advisor taking care of the contact with the municipality. The contractor comprised a team with members from two different departments for the refurbishment of the existing schools and building of the new school. The technical consultant had four specialists from different departments and a project leader assigned to the project. The architect had around six people working on the project with two different teams and one project leader.

THE PROJECT A CONFIGURATION OF NETWORKED PRACTICES

At first sight, the act of designing and building the schools appears complex or even chaotic. How might we understand this unfolding process?

Actor Network Theory enables us, with the fundamental notions of “actor and network”, to understand how important components (actors) of the project’s practices are tied together (networked) such as offices, schedules, goals, budgets, resumes, engineers, project leaders, clients, titles, and resources. In this process ANT operates with a fundamental principle of symmetry, where human and non-human actors are treated equally (Latour, 1996; Law, 2002).

This implies that practice is a socio-material configuration of persons and artifacts. For instance, the practice of designing the construction principle to be used in the school consists of calculations, a structural engineer to make the calculations and an assistant for producing the CAD drawings, information about material, supplies etc.

Professional practices - formed by Communities of Practices

A central point in ANT is that actors are defined by their relation to other actors – strong or weak. Within the actor-network of the project, there are differences in the strength of the ties. In this way, certain areas in the project’s network have a higher concentration of actors (actors with strong relational ties). The practices of these areas might be concentrated in a way that it is being black-boxed by outsiders (actors with weak relational ties). In the project, this is typically professional practices - experts such as structural engineers. Lowe (2001) supports this, positing that black-boxes are an important feature of postmodern society in that their role has become centrally constitutive of professional practice.

Looking closer at the individuals of the professional practices we find them using similar tools and language, have similar identities and worldviews. It is useful to consider that these groups form around Communities of Practices.

By introducing Communities of Practices Theory, we have a theoretical framework for understanding how the professional practices in the project are developed and reproduced. Drawing on symbolic interactionism Wenger (1998) explains this as a “meaning making” process with two equal components - reification and participation.

A central process of this is how newcomers learn the practice of the community through legitimized peripheral participation (Lave & Wenger, 1991). In Jensen’s (2001) words, this term indicates, “that the newcomer initially is given relatively easy tasks, where errors have relatively minor consequences (peripherality). But these tasks are nevertheless useful contributions to the community (participation), and therefore the person is granted acceptance as a participant (legitimacy). In the process of doing relatively simple tasks, the newcomer is placed in a position where she can observe, hear about and get a feel for more mature practices. So legitimate peripheral participation entails access to learning resources that are relevant to the person’s future participation. Her position should not merely be viewed in terms of the simple tasks, which she carries out at the moment. The present position is a part of a learning trajectory that leads to more and more involvement in the community. Consequently, the position is also constitutive of her identity as a member of the community of practice.” (Jensen 2001, p. 22) Vignette I on the following side illustrates this learning process of two newcomers in the project.

Focusing on the learning trajectories of the project's participants, it's interesting to notice the local effect of the institutionalized educational system. When members such as engineers and architects have ended their education, they are usually employed at companies heavily populated by either engineers or architects. In this way the educational system maintains a strong division of labour of the organisation of the practices in the project. Because of this institutionalized effect the professional practices can be assumed to cross organizational boundaries (Bloor & Dawson 1994).

Vignette 1: Mastering the practice

Shortly before the start of the design of the school, the architectural company hired a young architect Rasmus – who just graduated from the “Royal Academy of Fine Danish Art” in Copenhagen. In his new job, he was placed among the experienced architects at the drawing office and was spending most of his time in front of his computer drawing details – a very fundamental element of an architectural practice.

Susanne was employed by the contractor two years before the start of the school project. Most of her time was spent on managing small subcontractors – running around on the site monitoring them. After half-a-year, she complained about her workload to the project leader. She told him it was impossible for her to do her work in the quality that she wanted. The reply she received was “You must learn to muddle along professionally”.

The members of the project constantly “reveal” the boundaries between these professional practices. The distinction is found in their applied language, often prejudiced, but also in the material artefacts, they produce, such as drawings. Even the design meetings follow a structured agenda with a separation of the professional practices.

Having introduced CoPT in order to illuminate the reproduction and development of the professional practices in the project, it is important to notice that we implicitly inherit the notion of boundaries. This might seem problematic as ANT rejects the notion of boundaries by using another topology – the network. This position is highlighted by Tsoukas (1992), stating that “the most controversial element in a social system is its boundaries” (p. 441). We therefore now return to the network topology.

Collaborative practices - coordination practices

The focus of our attention is now on the weak ties between professional practices of the project. These are important for understanding how the project's practices are coordinated and aligned - in other words how collaboration occurs. Here actors who/which span the different practices such as drawings, the physical school, and the design leaders play central roles. From a CoP perspective these actors can be interpreted as boundary objects and brokers, which are founded in the “meaning making” processes of reification and participation (Wenger 1998).

Boundary objects

CoP can interact by reification: the exchange of boundary objects, which are tangible or intangible artefacts that cross boundaries between CoPs and are objects of reification in these. Wenger's (1998) explanation of boundary objects draws heavily upon Star & Griesemer (1989) who see boundary objects as anchors or bridges between practices. According to Star & Griesemer (1989) “boundary objects are objects which are both plastic enough to adapt to local needs and the constraints of the several parties employing them, yet robust enough to maintain a common identity across sites” (p. 414). This implies that boundary objects are assigned different meanings in different CoPs but their structure is common enough to more than one

community to make them recognizable. In ANT this process is explained in the concept of interpretive flexibility, where objects mean different things to different actors due to the variable geometry in the network of relations (Law and Callon 1992).

Various types of boundary objects knit the design process together. Some of the most visible are drawings spanning from sketches to detailed CAD-drawings, resumes, descriptions of customer wishes, spreadsheets, economical calculations etc. These objects are constantly developed throughout the process gradually getting closer to the final representation. Some of the boundary objects are an outcome of a professional practice – Carlile (2002) terms these “Ends”. An example is the drawings, which are produced in the engineering and architectural practices while the contractor produces the economical calculations. This does not inhibit professions from “commenting” on boundary objects produced by other professions, as objects from one professional practice might apply constraints to the work in the other practices. This element of dependency makes the design process a matter of negotiating the right solutions suiting the different professional practices.

Brokers

The other type of interaction is by participation; that is, by sharing individuals – brokers in Wenger’s terminology – who actively participate in several CoPs. Through this connection persons can introduce elements from one CoP into another.

Star & Griesemer (1989) also touches on this element in terms of multiple memberships of ‘social worlds’ which they term ‘marginal man’. They are referring to work from the beginning of the last century discussing problems of identity and loyalty with multiple memberships of social classes. This discussion of marginality is also found in Wenger (1998) as brokers not are at the very center of the CoP, but usually work in the boundaries through legitimized peripheral participation. What however characterizes an “effective” broker is the ability to introduce new possibilities for meaning which requires some kind of status in the community.

The existence of brokers in the project is rare compared to the crowded population of boundary objects. The closest match we find is the “bridge” between the “design team” and the professional practices. In the design meetings the professional practices are represented by one or two persons functioning as brokers between the design team and the home base. From the participating practices, the brokers might be marginal but in a larger perspective, these persons are critical in the coordination of the professional practices – being responsible for the negotiation of the right solutions and delivering the right design to the customer in the end. The mastery of this coordination is central to the learning process of the members of the professional practices, illustrated by Vignette II.

Vignette II: Mastering the coordination

Even if the architect Rasmus initially used most of his time drawing details, at the end of the project he was given the “responsibility” of designing a small extension to an existing building. In this process, he more frequently participated in the design meetings, representing the architectural company together with an experienced colleague. This experienced architect later explained the learning process that Rasmus was going through during a workshop: “Young architects is often the most idealistic, but as you start to work together with the other partners of the building project you continuously get better at finding compromises”

Also Susanne started to learn the skills of coordination, as she explained after having attended her first design meeting: “It was the first design meeting I attended – and I was disappointed, really disappointed about the communication between people. The way that people talked to each other and past each other. I had at least expected that people were talking nicely to each other and had the same visions about designing the best school“

On the contrary to the theories of CoP it is interesting to notice that the coordinating activities in the case are taken care of by "masters" of the professional practices. Thus both Susanne and Rasmus are first introduced to the core elements of their professional practices, before they are introduced to the practices of collaboration.

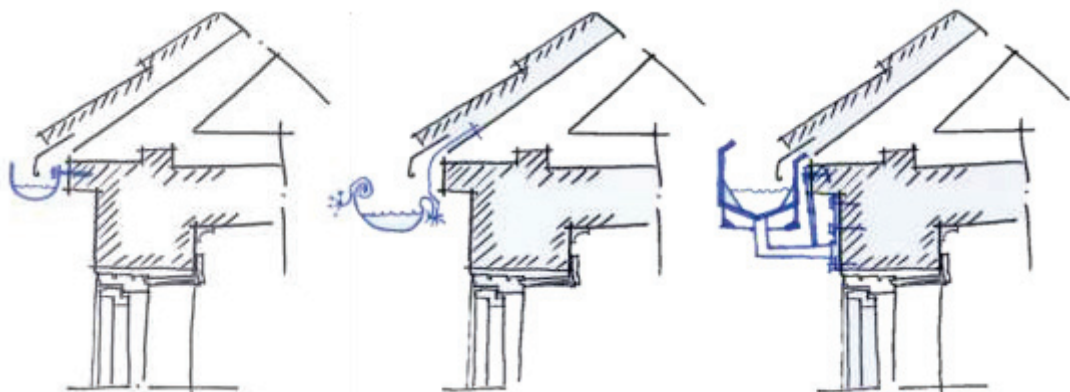
In fact it is questionable if the collaboration practices at all can be categorized as brokering activities or they just represent fierce negotiations between the professional practices without any mutual understanding.... As Susanne observes these coordination encounters are filled with tensions and conflicts.

COLLABORATION AND PREJUDICES

One of reasons for the fierce negotiations might be found in the prejudices of the different actors. Prejudices are often thought of as a source of conflict but as we shall see in the following example they also represents a source for establishing smooth collaboration practices.

The example is from an initial workshop in the project where the central professional practices were participating. As a part of the workshop the participants were presented with an exercise on their mutual prejudices. The exercise started with a general introduction to prejudices in construction followed by an example on how different professions would design a solution for mounting gutter at the school (see figure 1).

Figure 1: Prejudices exemplified. Gutter solutions developed by different actors.



Subsequently the different participants were asked to identify and articulate their prejudices of the other professions in the project including the client/users. The result is shown in table 1 on the next page based on a distinction between Subject and Object of the prejudices. The outcome of the exercise was subsequently transformed into another exercise developing Key Performance Indicators for the project. After the

workshop these KPIs were successfully used as a boundary object regularly measuring the quality of collaboration in the project. Building upon the developed understanding of the project practices we will in the following discuss the role and character of prejudices.

While prejudices often are seen as something to be minimized or eliminated a practice-based perspective introduces them as collective experiences which structure and enable/inhibiting the processes of collaboration.

By reading the table horizontally the table shows how the different profession (objects) are viewed illustrating shared beliefs among the other professions (subject). Thus the client are perceived as inexperienced and having difficulties in making decisions. The architects are viewed as ones who favour aesthetics designs and expensive solutions. The engineers are risk averse and the contractors are money fixated and favour cheap solutions.

Reading the table vertically another characteristic of prejudices emerge. The prejudices not only reveal the view on the different actors (horizontally) but also reveal core beliefs of the subject (vertically). Thus the architects are feeling constrained by all the other actors revealing "artistic" freedom is a fundamental driver of their profession. On the contrary the contractor statements reveal that managing budget and time is central to their profession. In this way prejudices is both looking outward and inward and thereby they enabling the identification of possible areas of conflicting dependencies in a project.

Table 1: Prejudices between the different professions in the project.

| Subjects → Objects ↓ | Architect | Engineer | Contractor |
|-------------------------|--|---|--|
| Client/user | Constraining Demanding Amateur | Arduous Can't make decisions optimistic about how much they can get for their money Is not a homogeneous group Can't keep track of the kids | Keeps the money Lack of preparation Lack of trust Inability to grasp decisions and economy No timely decisions |
| Architect | | Design is more important than structure wears black clothes Structures must not be visible Installations should also ideally be hidden pompous, conceited | Difficult to comprehend Expensive solutions Lack of trust No sense of time |
| Engineer | wears both belt and suspenders Limiting and constraining Categorically | | Over estimates "His word are law" |
| Contractor | Undisciplined Money-fixated Pushes Constraining | Never does as drawn and described Creative with extra work Bad work (quality) Can't keep the schedule Always shortcomings on delivery | |

It is noticeable how the characteristics of the prejudices are diverse. Thus it can be argued that the prejudices represent the fundamental division of labour in the industry...placing them at the core of the organisation of the industry.

DISCUSSION AND IMPLICATIONS

Some of the learning points from the case suggest different strategies for development of more smooth collaboration practices.

The first relates to the absence of real brokers in the project. While collaboration practices is sustained by masters from the professional practices none of the humans actors really bridges the different professional practices, thus are collaboration inherently build on accumulated experiences from other projects - prejudices. However within the contracting company there where examples of actors who worked as design managers for the contractor but with an educational background as an architect. These design managers where often considered as the most successful due to their ability to mediated between the different professional practices.

The second strategy is about challenging the one-of-a-kind collaboration practices of construction - developing long term relations. This was also present in the case - although in the periphery. In the project there was a special relationship between the architectural company and the HVAC engineer from technical consultant. The reason was that the later didn't work in the headquarter of the company but was employed at a local office in the same city as the architectural company. Due to their local presence the local office of the technical consultant and the architectural company had worked together on several projects throughout the years and consequently they had developed a deep, detailed and tacit understanding of each other's practices. This was illustrated at a design meeting where one of the architects stated "We don't need to coordinate with him (the HVAC engineer) because we know how he draws". Even though this way of repeating collaboration is challenging to set up, it is recently found to be a core practice among successful project managers (Jørgensen 2013).

While the two examples might be difficult to achieve in every project a more deliberately strategy for handling prejudices might be beneficial. Because, although prejudices can act as a hindering they also represent a source for understanding the actions of others and thus might workshops like the one in the case facilitate more conscious collaboration practices.

CONCLUSION

This paper has explored the formations of identity and collaboration in construction. Identity is closely linked to the membership of the professional practices like being an architect and in the physical manifestations of their practices (the building). However while the product of the projects lasts the experiences from the process vanishes and becomes embedded in the future practices in the form of prejudices. Since these prejudices represents collective experiences which structure and enables the collaboration processes they should not be disregarded but taken into account in managing and organizing the project team.

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